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Psychological Monographs: General and Applied

Democratic Leadership in the College Classroom¹Donald M. Johnson and Henry Clay Smith²

Michigan State College

I. INTRODUCTION

THE GENERAL purpose of the present study was to test the effectiveness of democratic leadership. This major problem of our society has been studied in the laboratory, in industrial and community groups, and in the classroom. Lewin and his students (10) conducted the pioneer laboratory experiment in this field; more recently Leavitt (9), Heise and Miller (6), and Mintz (12) have completed relevant laboratory experiments. Among the major industrial studies are those of Bavelas (2), Coch and French (3), and Maier (11). Studies of classroom leadership have been conducted and related studies reviewed by Asch (1) and by Smith and Dunbar (13).

The published research on this topic shows that the experimental arrangements are particularly difficult. Small groups can be formed and put to work under well-controlled laboratory conditions, but such groups are temporary and the group's activities are seldom of any genuine significance to the members. In on-going business and community groups, on the other hand, social processes may be observed under natural conditions but experimental variation of the important variables is seldom possible.

The college classroom offers a happy solution to some of these problems of experimental planning. The classroom group is not a temporary artificial one, but a regular part of the student's routine for one term. Social processes during class and the outcome of these processes are significant events in his life. At the same time, the social conditions of the classroom are to some extent under the experimenter's control, especially if the experimenter is also the teacher. The experimenter can control the membership of the class, its size, meeting place, and the like, and can exert considerable influence on the goals of the group, procedures used for attaining these goals, and other social activities during the class period. In addition, most of the group's social activities are open to observation, and data on the members' attitudes and achievements are easily obtained.

Furthermore, the college classroom deserves careful study and evaluation for its own sake, regardless of its contribution to social psychology. The classroom procedures of the present study are commonly used or recommended. Information on their relation to educational outcome should be of significance for educational practice as well as for the psychology of social interaction.

An adequate examination of the general belief in the superiority of demo-

¹ Financed in part by the All-College Research Committee of Michigan State College.

² The order of names is alphabetical. Either author will be glad to supply details omitted for lack of space.

cratic processes requires the statement of specific hypotheses in a form suitable for experimentation. It was expected that testing a series of related hypotheses would yield a general picture of the nature and effectiveness of democratic processes. The hypotheses tested were:

1. Students evaluate democratic classes more favorably than lecture classes.

2. Students accept decisions they make themselves more readily than decisions made by the instructor.

3. Students develop more democratic attitudes in the democratic class than in the lecture class.

4. Students learn more in a democratic class than in a lecture class.

II. METHODS

General Experimental Design

The design of the experiment is outlined in Table 1. In general, this design permitted a comparison between two classes taught by democratic methods and two classes taught by lecture-discussion methods. Variations between students were balanced by matching democratic and lecture groups. Variations between instructors were balanced by having each of two experimenters teach a democratic and a lecture group. Pretests and end tests were employed as well as various measurements during the course. The details of this design are

discussed here in the order in which they appear in Table 1, subjects, tests, the experimental period, and the end tests.

Selecting and Matching of Subjects

In the winter quarter of 1951 at Michigan State College two classes in beginning psychology were scheduled and each allowed to build up to an enrollment of about 80. These two classes took a battery of attitude and achievement tests on the first three days of class. On the basis of the test scores a group of 16 students was matched with another group of 16 in the same class. One of

TABLE 1
GENERAL EXPERIMENTAL DESIGN

		Democratic Groups		Lecture Groups	
		Instr. A	Instr. B	Instr. A	Instr. B
Subjects (grouped by pretest scores)					
<i>Demo. Att.</i>	<i>Achieve.</i>				
High	High	4	4	4	4
High	Low	4	4	4	4
Low	High	4	4	4	4
Low	Low	4	4	4	4
Total Number		16	16	16	16
Pretests (January)		60-item Democratic Attitude Scale and 150-item Achievement Test			
Experimental Period (10 weeks)		Use of democratic methods Measurements of participation, sociometric status, social passiveness		Use of lecture methods Measurements of social passiveness	
End Tests (March)		Democratic Attitude Scale, Achievement Test, Class Evaluation Scale, Test of Creativity			

these groups was then withdrawn from the class and met thereafter as a democratic class in a small conference room. The other group of 16 remained in the large class as a lecture group. In the other large class of 80, a democratic group and a matched lecture group were assembled in the same way. Thus instructor A taught, in a democratic way, an experimental group of 16 students while instructor B was teaching, by the lecture method, a large class of about 64 which included a matched control group of 16. The next hour, instructor B taught a democratic class of 16 while instructor A taught a large class which included the lecture group of 16.

The matching was done on the basis of scores from two tests, one of attitude toward democratic social processes and one of achievement in psychology, both of which will be described later. In addition to the matching of democratic and lecture groups, some subgroup matching was planned in order to permit comparison of the progress of those initially high on each test with those initially low.

At the close of the first three days of testing those students with high scores on both attitude and achievement were picked out and arranged into two groups of four each, roughly matched as to individuals and closely matched as to averages on both variables. Those with low scores on both tests were likewise arranged into two groups of four each. Then similar groups were made up of those who were high on attitude toward democratic social processes and low on achievement and those who were low on attitude and high on achievement. Thus we have in each group of 16 students four subgroups of four each. And each subgroup is equated to the corresponding subgroup in the other groups of 16.

The groups as wholes will be designated Democratic Groups A and B and Lecture Groups A and B, according to their subsequent treatment and their instructor. About the middle of the term one student dropped out of instructor A's democratic group. His match was therefore withdrawn from the corresponding lecture subgroup in subsequent comparisons.

Starting the groups and subgroups off with approximately the same pretest scores had the advantages of equating opportunity to improve, reducing irrelevant variance, simplifying statistical procedures, and making posttest comparisons much easier to interpret.

Scales and Tests Employed

As indicated in Table 1, a Class Evaluation Scale, a Democratic Attitude Scale, and a 150-item achievement test with five subscores were used in both the pretest and end test periods. In addition, a test designed to measure one aspect of creativity, sensitivity to psychological problems, was employed in both democratic and lecture groups at the end of the course. During the course, records were also kept of individual participation, sociometric status, social aggressiveness, and attendance. Each of these measuring instruments is described here in the order just mentioned.

The Class Evaluation Scale. Students' evaluations of the democratic and lecture classes were obtained by the 20-item evaluation scale below.

CLASS EVALUATION SCALE

Directions. The following questions apply to your opinions about this class. They are requested as an aid in improving the course. Use the separate answer sheet. Mark the number opposite the question which most clearly corresponds to your attitude about the course. Please try to answer every question.

1. About how many members of the class do you know by their first name?

2. How pleasant have the classes been?
 3. How interested are you in the general purpose of the course?
 4. In your opinion, how interested is the class as a whole in the purpose of the course?
 5. In your opinion, how effective has the class been in advancing its purpose?
 6. How satisfied have you been with the class up to the present time?
 7. Sometimes a particular course is very important to a student. The goodness or badness of the class is a very significant matter. At other times, a particular course may have little or no importance. How would you rate the significance of this course for you?
 8. Sometimes students become so "involved" in a class that they rarely think of themselves at all. At other times, they become only mildly involved, thinking mainly of personal matters. How would you rate your "involvement" in the course?
 9. Have you felt free to express your ideas in class?
 10. How frequently have you actually expressed your ideas in class?
 11. What is your general impression of the quality of teaching?
 12. What would you consider was the class's over-all impression of the quality of the teaching?
- Directions.* Indicate your observations of the teacher of this class by marking the appropriate space on the answer sheet opposite the number of the statement. Use the following code for each of the statements: 1. Never. 2. Seldom. 3. Occasionally. 4. Frequently. 5. Always.
13. He made good plans for the class.
 14. He made good decisions.
 15. He could see both sides of a question.
 16. He could get students to want to work.
 17. He was very interested in the success of the class.
 18. He explained why he did things.
 19. He could make tactful criticism.
 20. He treated each student as an individual.

Directions. Indicate whether you approved or disapproved of the following aspects of the course. Use the following code: 1. Strong disapproval. 2. Mild disapproval. 3. Indifferent or don't know. 4. Mild approval. 5. Strong approval.

21. The objective type of tests used.
22. The method of determining grades in the course.
23. The number of tests given.
24. The particular days on which quizzes were scheduled.
25. The classroom procedures employed.

We would appreciate your comments on anything that struck you as particularly good or bad about the course. Please write these on the back of the answer sheet.

Each of the above 25 statements had five alternative answers. For reasons of space the alternatives are not given for the first ten questions. The items in this scale were adapted from those of Hemphill (7). The first 10 questions are designed to measure group social dimensions defined by Hemphill. Questions 11-20 pertain to the leader's behavior. Hemphill found leader qualities, questions 13-20, most highly related to rated effectiveness of a group. In addition, questions 21-25 were added to determine attitude toward procedures which the students were given power to decide in the democratic groups. This information provided data for checking the second hypothesis. The students were also asked to write their personal impressions of the course in an informal way. A *general evaluation* score was obtained by adding items 1 through 20. A *decision evaluation* score was obtained by adding items 21 through 25.

The Democratic Attitude Scale. A major hypothesis of this experiment concerned the changes in the democratic attitudes of students exposed to a democratic atmosphere. An adequate test of this hypothesis requires a definition of democracy and a scale to measure changes in students' attitudes toward democracy. Unfortunately neither a usable definition nor a scale was available. In meeting this difficulty a definition of the term, based upon the usage of social scientists, was attempted. Although complete agreement with this definition is not expected, statement of a working definition will at least make clear the basis for development of the scale of attitude toward democratic leadership and democratic social procedures.

A survey of the relevant literature indicates that the term "democracy" is used on three levels. It is used to de-

scribe social institutions, such as a democratic government or, more generally, a democratic organization. It is used to describe the leadership roles played by individuals in dealing with a face-to-face group. Recently it has also been used to describe personality, as, for example, the "democratic personality" as contrasted with the "authoritarian personality." It is generally assumed that there is a close relationship between democracy at these levels. Democratic individuals become democratic leaders and create democratic institutions, and, vice versa, democratic institutions mold democratic leaders and democratic personalities. Because of this assumed intimate relationship between these levels, a brief definition at each level is attempted, although the primary concern of the present study was the second level, the role played by the democratic leader.

Institutional democracy is the sense in which the term is generally most familiar. The difficulties with definitions at this level have been clearly pointed out by Spitz (14). He concludes, however, that the essential elements of democratic organization are the following: (a) Power is invested in the people. (b) Majority decision must prevail. (c) Minorities shall remain free to oppose. (d) Leaders are controlled by the followers.

Psychologists have been primarily interested in democracy as an aspect of the leader's role in a face-to-face group. The following outline, which was used as a guide in conducting the democratic classes and developing the democratic attitude scale, is a synthesis of statements made by psychologists in a variety of contexts.

1. The basic principle of democratic leadership is that *the leader acts in a group-centered way*. He acts in accordance with the expressed needs of the group rather than with his conception of how things should be done. The

original work by Lewin, Lippitt, and White (10) was based on this principle. In their democratic group the group determined policies and procedures with the guidance and encouragement of the leader.

2. The democratic leader *assists in the expression and clarification of the needs of the group*. He may do this by listening permissively to the expressions of individuals, by reflecting and interpreting their expressions, and by protecting minority opinions. He evaluates the *work of persons*, rather than persons as such.

3. The democratic leader attempts to *aid in the satisfaction of expressed needs*. He does this, in part, by clarifying the limits within which the group has control, by delegating his decision-making power to the group, by submitting facts relevant to decisions, and by suggesting alternative actions.

4. The democratic leader attempts to *decrease his leadership role* and increase his membership role. Although seldom explicitly stated, this "trend" aspect of democratic leadership is implied in most uses of the concept by psychologists.

The "democratic personality" is a topic of more recent interest to psychologists than democracy as an institution and as a leadership technique. Research to date suggests that a democratic personality is liberal, equalitarian, scientific, and secure.

A democratic attitude scale, based on the rationale just described, was devised by one of the authors to measure attitudes toward democratic leadership in face-to-face groups. In the development of this scale the role of the democratic leader as outlined in the paragraphs above was used as a guide. The intention was to make this scale a generalized one, covering all group situations rather than to confine it to the classroom situation. There were two preliminary forms of this scale, Forms A and B, and the final form, Form C, which is reproduced below. For disguise it was called simply an opinion questionnaire.

DEMOCRATIC ATTITUDE SCALE

Directions. The following statements refer to opinions about how groups should be managed. Some people agree and others disagree with

them. In stating your own personal feelings, consider yourself in a concrete situation such as a club, a classroom, or a political or business group. Think of a group of about *twenty* to *twenty-five* people.

Please mark on the separate answer sheet according to your agreement or disagreement, as follows: 1. Strong opposition, disagreement. 2. Slight opposition, disagreement. 3. Uncertain. 4. Slight support, agreement. 5. Strong support, agreement.

1. What a member of a group thinks is not too important as long as he is doing his job well.

2. A group should be able to count on the ability of its leader to arrive independently of the group at decisions related to their actions.

3. One goal of the group leader should be to become stronger in his leadership role and more detached from his membership role.

4. It is usually unwise for a leader to ask members of his group for suggestions before setting up an important project.

5. It is best for a leader to tell inefficient workers to "get busy or get out."

6. An agenda set by the group should be kept open for later changes or additions.

7. Knowing a great deal about an individual's home life is a great help in selecting the right person for a responsible job.

8. Reliance upon one particular individual as a leader should decrease as the group becomes more mature.

9. In participating in a group, one should always seek the opinions of other members.

10. It is almost always desirable for a leader to explain the duties and responsibilities of his job to the people in his group.

11. The average member of a group takes little pride in what he does on his job.

12. Groups where the meeting is planned by the leader usually make more progress than those where it is planned together with the members.

13. Only carefully chosen people should be taught how to influence others, because of the chance that such skills may be used to promote personal goals.

14. When it is possible for a leader to use either an individual or a committee, he should use the individual in order to insure efficiency.

15. It is frequently necessary for a leader to change mature adult minds without their knowledge when he judges it to be for their final good.

16. It is generally wise for a leader to prohibit talking between workers on a routine job.

17. There is little value in asking members of most groups to judge their leader.

18. The most important requirement of a good leader is a complete understanding of the job he has to do.

19. A good way for a leader to prevent further trouble among members of a group is to make an example of one of them.

20. Compromise between group members with strongly opposed points of view generally weakens the resulting group decision.

21. Before each important action that the leader takes, he should obtain the agreement of the group involved.

22. The diverse opinions of every member of the group should be given careful consideration before a decision is reached.

23. It is desirable that a representative from each committee chosen by the members of a group get together with the leader in regular meetings.

24. A group should generally not go so far as to exclude a member who threatens to disrupt the functioning of the group.

25. Evaluation of the work of each member by the entire group is a very valuable contribution to the functioning of the group.

26. It is sometimes undesirable for a leader to talk over the methods of approach to a project with the members of the group.

27. It is usually better for a few people in a group to make decisions and then to present them to the rest of the group.

28. It is usually best for a leader not to explain in detail changes in rules and policies to the members concerned.

29. There are generally some people in a large group who should not be accepted on the same level of equality as others.

30. The real test of any leader's way of dealing with other people is how well he gets the job done.

31. It is more important for a leader to be sensitive to the needs of the group than to be an authority in the field of the group's interest.

32. It is not the leader's task to provide the group with all the necessary information for the group to arrive at a decision.

33. Every member of a group should be a potential leader.

34. A group member should feel free to contradict the leader, even when it means involving the group in a long argument.

35. The leader's primary task is to reflect the feeling of the group rather than to direct its thought and action.

36. A discussion-type group wastes far more time than one in which the leader makes most of the decisions.

37. In a group meeting it is a waste of time to have to listen to a group member who obviously knows less about the subject than the leader.

38. If a group is to run smoothly the leader must be dominant.

39. Group participation methods are fine

ideals, but for many purposes they are too inefficient to be useful.

40. A group leader in politics should be essentially a person capable of inspiring personal loyalty in the group members.

41. It is the leader's task to try to find out what the group wants rather than to decide what is best for the group.

42. It is primarily the responsibility of the group, rather than the leader, to see that the group arrives at a good decision.

43. In an ideal group the only difference between the leader and the members would be that they had slightly different jobs to do.

44. A leader should be free to discipline a group member whose behavior is detrimental to the group.

45. It would be quite possible to use group participation methods in running a business.

46. People are generally either leaders or followers, and it is the leaders who must be singled out for responsibility.

47. A group leader in business should be essentially a person who is able to get high work output from the members.

48. A group leader in education should be primarily an informative lecturer.

49. The more authority a leader has, the smoother the group will run.

50. Group discussions are usually monopolized by people who like to hear themselves talk.

51. The quality of a leader is dependent upon his ability to get people to do what he thinks is right.

52. Because of the relatively low educational level of the people he represents, a union leader should make the decisions for his group.

53. A person in a position requiring leadership must be morally and intellectually superior to the people in the group.

54. The nature of an instructor's position makes democratic methods very difficult in the classroom situation.

55. An individual who is responsible for a group's decisions should not have to be bothered with individual personalities.

56. A leader must be careful to see that every side of an issue is presented to the group.

57. A member of a group should feel free to argue with other members of the group even if he is all alone in his position.

58. Members of a group will get more out of discussing a problem than listening to the leader, even when the leader is an expert in the field.

59. A leader should be very sensitive to the feelings of others.

60. Ideally, religious groups should arrive at decisions on church matters by using group discussion methods.

This scale was administered to all subjects in the present study. The corrected split-half reliability was .85. A test-retest correlation was obtained by correlating initial and final scores separated by a two-month interval. This correlation was .47, indicating some degrees of stability of the scores, but not enough to interfere with measurement of shifts in attitude.

Some evidence exists to support the validity of the scale. The test has face validity in that the items have been selected according to a rational definition of a democratic attitude and empirically tested for internal consistency. Some of the items are valid in the sense that they discriminate successful from unsuccessful leaders, as on the How Supervise? test (4) from which some of the items were taken. The results of the preliminary form were significantly related to some personality variables, in the directions predicted from the above discussion of the democratic personality. It was an incidental purpose of the present study to gather additional data on the validity of this scale.

Social Passivity Scale. The social adjustment items from the Bell Adjustment Inventory were administered once in each of the classes to obtain a measure of the student's social aggressiveness. Low scores on this scale indicate a positive and constructive approach to social situations; high scores indicate social passivity. In order to make the title consistent with the scoring it is referred to as the Social Passivity Scale.

The Achievement Tests. An adequate test of the fourth hypothesis would require several different measures of achievement, because the experimental variables might have different effects on different kinds of achievement. Several writers have pointed out the inadequacy

of the conventional measures of educational achievement, saying that democratic teaching produces improvement in certain intangible ways not ordinarily tested. The present experiment, therefore, included a wide variety of measures of achievement.

A large pool of test items based on the textbook was available. Difficulty values and reliability data for each item had been obtained from previous use with similar populations. From this pool the most reliable items were grouped into three subtests of 60 items each, intended to test, respectively, psychological vocabulary, facts, and reasoning. Examples of each type follow.

Vocabulary item

SET (1) preparation (2) reaction (3) pathway (4) choice (5) fixation

Factual item

Raising body temperature by electric current is a specific treatment for (1) psychosomatic illness (2) psychoneurosis (3) brain syphilis (4) manic-depressive psychosis (5) paranoid schizophrenia.

Reasoning item

Under which of these conditions will the sex drive in rats be stronger than hunger or thirst? (1) Give plenty of food and water. (2) Place animal in obstruction box when young. (3) Deprive animal of food, water, and sex for two days. (4) Deprive animal of food and water for one day. (5) Keep male and female together constantly.

Items of each type were assembled into two forms of 30 items each of equal average difficulty values. Thus two equivalent forms of each of three kinds of test pertaining to the textbook were available for initial and final testing. Exact equivalence was not necessary since all students took Form A first and Form B last.

The fourth type of achievement test was a case study test modified from one developed by Horrocks and Troyer (8). Sam Smith's behavior in school is de-

scribed, then interpretive statements and recommendations are made, such as "Sam feels quite insecure in social situations." The students are asked if they agree with the statement, if the evidence presented is not sufficient, or if they disagree. The same test of 30 items was used initially and finally.

The fifth achievement test was a reading test. Paragraphs, tables, and diagrams, taken from the psychological literature, are printed, and questions are asked about this material. Two forms of 30 items each, roughly equated for difficulty, were used as initial and final tests.

Test data—all subjects. The experiments began with two large classes of 80 to 90 students. At the end of the term achievement test data were complete for

TABLE 2
TEST DATA FOR 162 SUBJECTS BEFORE AND AFTER
A QUARTER TERM OF THE BEGINNING
PSYCHOLOGY COURSE

Test	Initial Test, Form A			Final Test, Form B		
	M	SD	Reliability	M	SD	Reliability
Vocabulary	12.8	3.3	.46	22.6	3.9	.76
Facts	10.9	3.3	.51	18.8	4.2	.68
Reasoning	15.6	2.9	.33	21.0	3.5	.70
Case study	18.8	2.9	.39	19.8	3.0	.67
Reading	21.7	2.2	.34	20.4	3.1	.67
Total	79.8	9.6	.62	102.6	11.6	.86

162 subjects. Table 2 shows the means, standard deviations, and reliability coefficients for Form A, given at the beginning of the course, and Form B, given at the end. Reliability coefficients are odd-even correlations, corrected for length by the Spearman-Brown formula. Tables 3 and 4 give the product-moment correlation coefficients between the part scores before and after the course. These three tables, summarizing the test results for all 162 students, present the important data necessary for interpreting the results of the comparisons of the

TABLE 3
CORRELATIONS BETWEEN INITIAL SCORES
(Coefficients above the diagonal are corrected
for attenuation.)

Test	Voc.	Facts	Reas.	C.S.	Read.
Vocabulary					
Facts	.32				
Reasoning	.25	.42			
Case study	.12	.16	.08		
Reading	.15	.04	.11	.04	

small matched experimental and control groups.

From Table 2 it is apparent that scores on the initial tests include much chance variance. A chance score on each of the first three tests, for example, would be six. Average obtained scores are only about double the chance scores. On the case study test a chance score would be

TABLE 4
CORRELATIONS BETWEEN FINAL SCORES
(Coefficients above the diagonal are
corrected for attenuation.)

Test	Voc.	Facts	Reas.	C.S.	Read.
Vocabulary					
Facts	.48				
Reasoning	.32	.53			
Case study	.04	.12	.10		
Reading	.10	.28	.47	.26	

ten, and on the reading test a chance score would be about fourteen. For this reason the reliabilities of the part scores are rather low. When all five tests are combined to get a total score, the reliability of this total is reasonably satisfactory. The initial matching was based on this total score on all five tests.

On the final tests standard deviations and reliability coefficients are higher, as one would expect. The means, of course, are much higher, but it is important to note that they are not near the ceilings of the tests, which would be 30 on each subtest. The distribution of neither the initial scores nor the final scores is skewed.

Actually, the reliability with which this experiment is concerned is not the reliability of any one test but the reliability

of the gain or improvement. Knowing the correlation between initial and final test scores, which was .34, and the reliability of each test, the reliability of the gain scores can be computed according to a formula developed by Thorndike (15, p. 614) as .61. This reliability is high enough to disclose large variations in individual scores or small variations in means of matched groups.

The improvement on the first three tests is about what one would expect in a quarter's course. As stated earlier, Forms A and B are closely equivalent in respect to vocabulary, facts, and reasoning. The improvement on the case study test is very small, even though Form B was the same test as Form A. And the improvement on the reading test is actually negative. The reading test has not been as carefully standardized as the first three tests, so the negative improvement may be the result of differences in difficulty between Form A and Form B. In any event the last two achievement tests do not contribute very much to total achievement for the whole sample.

From Tables 3 and 4 it is apparent that success on each test is related to success on the others; all correlations are positive. But many correlations are rather low, a fact that justifies the attempt to measure these different aspects of achievement separately. The reasoning test, as might be expected, has the highest average correlation with the others, both initially and finally.

Both initially and finally the case study test is the most independent. Evidently this test measures an aspect of achievement that is not tested by conventional tests of achievement, and, furthermore, a course in psychology does not add much to this aspect of achievement. Further study of this type of test might improve the criteria of achievement in psychology

courses and might point up a remediable defect in teaching procedures.

In general it is clear that there is much to be learned by including several dependent variables in an experiment on teaching procedures. The course does not have the same effect on all variables; in fact it leaves some aspects of achievement practically untouched.

Ratings of sensitivity to psychological problems. One of the advantages claimed for the democratic method is that it encourages creative imagination. This aspect of achievement is not included in the battery of tests described above, all of which are of the multiple-choice type, suitable for machine scoring. One free-response type of test was added, therefore, following a suggestion by Guilford.

Guilford says that "a large part of the scientist's success depends upon his ability to ask questions, and, of course, to ask the right questions." He therefore suggests, "One might present the examinee with a short paragraph of expository material and instruct him to ask as many questions as he can that are suggested by the statements, with relatively liberal time allowed" (5, p. 452). Two paragraphs were used, with ample space for responses.

1. The President of the Sophomore Class appoints a committee of seven students to make plans for a class dance. When the committee meets, practically all the talking is done by two people.

List as many psychological questions as you can think of that are suggested by this statement.

2. Two married women of about thirty decide to learn to type, each practicing alone in her spare time. After a month of such practice one types fast and inaccurately, the other slowly and accurately.

List as many psychological questions as you can think of that are suggested by this statement.

All classes took this test the last week of the term.

Tests of this kind can easily be scored quantitatively by simply counting the questions listed. However, a qualitative measure of the merit of the questions requires the aid of expert judges. The judging procedure will be described in the section on results.

Measurement of group processes. Group processes in the classes were analyzed both for the additional light they might shed on the hypotheses and for the possibility of checking previous findings on the nature of such processes. In implementing this purpose, records of the number of individual participations were kept, similar to those reported by Smith and Dunbar (13). The index used was the number of voluntary participations divided by the number of days present in class.

Sociometric ratings were obtained from both democratic groups as an aspect of a group project where individuals were to be divided into subgroups to study psychology. The members of each class were asked to indicate as many individuals as they wished with whom they would like to work on this project. Attendance records were kept in all classes. In addition, the instructors kept a log of classroom activities and the students made written comments on such activities and on the course as a whole.

The Classroom Procedures

All four classes were the same in some superficial respects. All used the same textbook, all had the same initial and final tests, and all met four times a week for a one-quarter term. The democratic procedures were carried out during class time, hence all groups had approximately equal contact with instructors outside class.

The two large classes, within which were the two control groups of 16 each,

were taught by the usual lecture-discussion procedure. Both experimenters had taught the beginning course often and endeavored to teach these classes by their customary methods.

The democratic classes were conducted according to the experimenters' definition of the role of the leader in the democratic group, as outlined in the section on the measurement of democratic attitudes. The major aspects of this role are recapitulated here.

1. In general the teacher acts in a group-centered way. He acts in accordance with the expressed needs of the group rather than with his conception of how things should be done. For example, the experimenters announced to their democratic classes that their average grade would be approximately the same as in the large lecture classes. (This was done for control purposes.) However, the instructors suggested to them that it might be valuable to deviate from traditional testing procedures and utilize essay tests, ratings by the instructor, ratings by fellow students, or some combination of these. It was quite apparent to the instructors that the students felt anxious in this unfamiliar situation and were seeking conventional landmarks. When the students in both democratic groups proposed the use of objective tests, the instructors merely aided them in working out the details. In this case, the instructors were attempting to fulfill two aspects of the democratic role: to clarify the limits within which the group had control and, within those limits, to operate on the basis of the expressed needs and decisions of the groups rather than on the basis of their conception of how things should be done. An objective indication of the attainment of this aspect of the democratic role is given by the fact that both democratic groups felt

that the instructors treated them more as individuals than did the control lecture groups.

2. The teacher assists in the expression and clarification of needs by listening permissively to their expression, protecting minority opinion, and by evaluation of ideas rather than individuals. For example, when the topic of attention was introduced, the question of causes for poor concentration was raised. This led the students to recount personal problems in trying to concentrate in the dormitories, in the library, and at home. Criticisms of the educational system in this connection were advanced. In such discussions the leader attempted to listen permissively, to reflect feelings, and occasionally to interpret them, but not to restrict the discussion.

3. The teacher attempts to aid in the satisfaction of expressed needs by clarifying the limits within which the group has control, delegating his decision-making to the group, submitting facts relevant to decision, suggesting possible alternative actions, summarizing agreements in the group, and keeping discussion on the point.

4. The teacher aims to decrease his leadership role and to increase his membership role.

To conduct college classes according to these democratic principles is a difficult assignment. No one could say, in advance, whether it could be well done. But the experimenters were interested in the project. It was their principal occupation for a term, and they met almost daily to discuss operational problems.

Room arrangements were particularly fortunate. While the control classes met in a large lecture room with the usual instructor's desk on a slightly raised platform, the experimental classes met in a small conference room. Tables were

pushed together, and the members of the group, including the instructor, sat in a ring around the tables.

Within the first few days the students were asked to discuss, then vote on, the number and kind of quizzes, order of topics, and the like. The decisions made by the experimental classes about quizzes were imposed by the experimenters on the control classes. Throughout the course they made original proposals and decisions as a group about classroom activities, field trips, topics to be discussed, and methods of study. When the topic of group organization and leadership arose, the experiment served as a basis for discussion.

Comparison of class activities. The instructors kept logs of the principal activities of all classes. Activities of the two large lecture-discussion classes were similar to each other and similar to most other classes taught in the same conventional way. Activities in the two small classes differed somewhat from each other and differed greatly from the conventional classes.

The most obvious difference between the two types of classes was the difference in the way they spent their time. A visitor to a lecture-discussion class would have observed the instructor lecturing about psychological topics and discussing these with the class practically all the time. Visiting a democratic class he would have observed the students doing much of the talking, making most of the decisions. He would have noted that a great variety of topics was discussed. The democratic classes, for example, spent

many hours discussing aims of the course, ways of studying, kinds of examinations, grading systems, and the like. One democratic class, taught by instructor A, voted to have, in addition to the final examination, a midterm examination and four quizzes. The other democratic class, taught by instructor B, voted to have a midterm examination and two quizzes.

In the democratic classes the instructors made no attempt to cover the material of the course. As noted above, the teacher's role was to help the students satisfy their needs. Some students, especially at first, wanted to sit and listen to the instructor, but class participation increased as they became more familiar with each other and with the democratic procedure.

The principal difference between the two experimental classes apparently was a difference in attitude toward grades. Class B seemed to be interested in grades and worried that they might not do as well as the conventional classes. Class A, though they voted to have regular quizzes, seldom discussed grades or the other classes, and were quite willing to take time off for extracurricular activities.

In general it was clear from the experimenters' classroom observations that the experimental groups did make most of the decisions, that they did express some of their needs, that the class activities were organized around these needs, and that the teachers did increase their membership roles. And it seems probable that these democratic procedures were accepted more wholeheartedly by Class A than by Class B.

III. RESULTS

Student Evaluation of the Classes

The first hypothesis states that students will evaluate democratic classes

more favorably than lecture classes. The data from the Class Evaluation Scale, which was administered at the end of

the course, were used in testing this hypothesis.

General results. Table 5 summarizes the results of this comparison. The fig-

TABLE 5
DIFFERENCES IN STUDENT EVALUATIONS OF
DEMOCRATIC AND LECTURE CLASSES

Instructor	Demo. Class	N	Lect. Class	N	Diff.	Conf. Level
Instructor A	75.9	15	65.7	15	10.1	.001
Instructor B	66.7	15	70.0	15	-3.3	n.s.
Total	71.3	30	67.9	30	3.4	n.s.

ures in the table refer to the general evaluation score which was obtained by adding items 1 through 20. The maximum score was 100. Confidence levels in this and succeeding tables come from a two-tail test of significance.

Clearly the 15 students in instructor A's democratic class evaluated their class more favorably than the 15 matched students in his lecture class. For instructor B the difference is reversed, but not significantly so. When the classes are combined, the difference favors the democratic classes, but not significantly so. In other words, the hypothesis was fully verified in the subexperiment under instructor A, but was not verified in the

subexperiment under instructor B.

Differences between the democratic groups. These results were unexpected. Therefore the individual items of the Class Evaluation Scale were analyzed separately in order to disclose the most significant difference between the two democratic classes. These differences are shown in Table 6, arranged in order of statistical significance. Only those factors that were significant beyond the 5 per cent level have been included. It is clear that group A found its class pleasanter, more interesting, and more satisfying. There is no evidence that the instructor variables are any more important than the social dimension variables.

Acceptance of Group Decisions

The second hypothesis of this study was that students would accept decisions they made more fully than the same decisions when they were made for them by the instructor. Previous studies have uniformly supported this hypothesis. The data on this point come from questions 21 through 25 of the Class Evaluation Scale.

Table 7 shows that democratic group A was significantly more favorable to

TABLE 6
SIGNIFICANT DIFFERENCES IN STUDENT EVALUATIONS
BETWEEN THE TWO DEMOCRATIC GROUPS

Variable	Demo. Grp. A	Demo. Grp. B	Diff.	Critical Ratio
Social Dimension Variables				
4. Interest	3.80	2.87	.93	4.27
2. Pleasantness	4.47	3.27	1.20	3.28
6. Satisfaction	3.67	2.47	1.20	2.88
8. Involvement	3.13	2.47	.66	2.29
Instructor Variables				
16. Stimulation	3.53	2.60	.93	3.75
11. Teaching (own opinion)	3.93	3.27	.66	3.44
12. Teaching (estimate of class opinion)	3.80	3.00	.80	3.29
Total: Items 1-20	75.87	65.80	10.07	3.43

TABLE 7
STUDENT ACCEPTANCE IN DEMOCRATIC AND LECTURE CLASSES OF DECISIONS MADE IN THE DEMOCRATIC CLASSES

Instructor	Demo. Class	N	Lect. Class	N	Diff.	Conf. Level
Instructor A	23.7	15	19.7	15	3.0	.01
Instructor B	17.5	15	19.4	15	-1.9	n.s.
Total	20.0	30	19.5	30	0.5	n.s.

ward the decisions made than their matched control group, whereas democratic group B was less favorable. When the two classes are combined, the difference practically disappears.

cisions which turned out to be unsatisfactory, and this resulted in greater dissatisfaction than if these decisions had been made by the leader.

Gains in Democratic Attitude

The third hypothesis which this experiment was designed to check was that the students in the democratic classes would become more democratic in their attitudes than those in the lecture classes. The measurement of democratic attitude was made at the beginning and

TABLE 8
SIGNIFICANT DIFFERENCES IN DECISION ACCEPTANCE BETWEEN THE TWO DEMOCRATIC GROUPS

Variable	Demo. Grp. A	Demo. Grp. B	Diff.	Critical Ratio
Decision Acceptance Variables				
22. Method of grading	4.40	2.13	2.27	7.59
25. Classroom procedures	4.53	2.93	1.60	4.57
23. Number of tests	4.67	3.53	1.14	3.06
21. Type of test	4.67	3.87	.80	3.05
24. Days of tests	4.40	3.53	.87	2.97
Total: Items 21-25	21.25	16.00	5.25	3.74

Table 8 compares the two democratic groups in respect to acceptance of specific decisions. The largest difference is in respect to the method of grading, and these differences in acceptance of decisions are larger than the differences in social dimension variables and instructor variables shown in Table 6. These differences in the attitudes of the two democratic groups toward the decisions they had made were observed and discussed by the instructors early in the course. The most likely explanation is that both groups were involved and took personal responsibility for the decisions. In group A they thus became involved in decisions which were satisfying and which resulted in greater satisfaction. In group B the students felt involved in de-

end of the course by means of the Democratic Attitude Scale.

Analysis of the results showed that there were only small, inconsistent changes in attitude in both the democratic and lecture groups. Variability of scores and of score changes were large, indicating that something happened during the course, but over-all comparisons of class means showed that neither the democratic nor the lecture experiences had any consistent effect.

Two incidental findings are worth noting. The democratic groups became more homogeneous in their attitude toward democratic social processes. This suggests a development toward common *norms* rather than toward democratic gains. Second, the low democratic groups

under instructor B made significantly greater democratic gains than the low group under instructor A. The results in terms of students' evaluation were the reverse: the low democratic group under instructor A had the lowest evaluation. Under instructor A the low group found the class pleasant and satisfying, but under instructor B unpleasant and satisfying. The implication is that the frustration of undemocratic individuals in a democratic situation, though they find it unpleasant, leads to greater progress toward democratic attitudes.

Achievement Gains

The fourth hypothesis of this study stated that the experimental democratic procedures are more effective in promoting academic achievement than the usual lecture-discussion procedures. The

TABLE 9
ACHIEVEMENT GAINS IN DEMOCRATIC
AND LECTURE CLASSES

Variable	Demo. Class	N	Lect. Class	N	Diff.	Conf. Level
Instructor A	26.3	15	24.6	15	1.7	n.s.
Instructor B	23.7	15	22.4	15	1.3	n.s.
Total	24.0	30	23.5	30	1.4	n.s.

data bearing on this hypothesis appear in Table 9 in the form of mean gain scores. Both democratic groups improved more than their matched control groups, but neither of these gains nor the gain for the two classes combined is significantly different from zero. We can only conclude that the experimental democratic procedures did not produce academic superiority in any large amount.

The lack of inferior achievement in the experimental classes should also be noted. Certainly the experimental classes spent much less time on the conventional subject matter of psychology than the large lecture classes. If anyone asserts

that students allowed to make their own decisions about classroom procedures will fall behind their colleagues in conventional classes by, say, four score units, our data compel the rejection of this assertion at the 1 per cent level of significance.

It might be assumed that those who were initially favorable to democratic classroom procedures would profit more by the democratically run classes than those who were initially unfavorable. A special analysis of the data refutes this assumption.

Relative achievement on the five subtests. Although the democratic classes taught by the two instructors came out with about the same superiority over their matched lecture classes, the pattern of relative gains on the five subtests differs considerably. Instructor A's democratic class exceeded his lecture class in vocabulary by a difference significant at the 5 per cent level. In instructor B's classes this difference is reversed, though it is not significant. Instructor A's democratic group also achieved superiority on the reasoning test by a difference that is significant at the 10 per cent level (or the 5 per cent level if a one-tail *t* test is used). Likewise the relative gains on the case study and reading tests are reversed. The differences may be due to differences between the instructors or, more likely, to differences in the activities undertaken by the students when they make their own decisions.

There is some consistency in respect to relative gains. Both democratic classes achieved the same gains as their control classes in respect to facts. And both classes bested their control groups in respect to reasoning. For the combined groups, reasoning shows the highest relative superiority; reading is next. Though these differences for the com-

bined classes are not significant, as far as they go they agree with the expectation that democratic procedures exert the most influence on the more intellectual achievements.

Sensitivity to psychological problems. The results of the test of creative thinking described earlier were in the form of questions about psychological problems. Each test paper of a student from a democratic class was paired with a test paper of his match from a lecture class. The 31 pairs of papers were randomized and given to four advanced graduate students of psychology with the following instructions.

Read these by pairs and check the one of each pair that shows the most psychological curiosity and insight. Don't be influenced by vague generalities. Look for specific plausible hypotheses.

The four judges thus made 124 comparisons, of which 70 favored the democratic classes. This frequency does not quite reach the 10 per cent level of confidence (or the 5 per cent level if a one-tail test is used). Actually the comparisons of three of the judges did not differ from chance. The fourth judge, who had done previous research on complex judgments, gave 23 out of 31 judgments favoring the democratic subjects, a frequency that clearly exceeds the 5 per cent level.

The most reasonable conclusion is that the democratic procedures did increase sensitivity to psychological problems. Clear proof of this point would require more time from the subjects and more training of the judges.

Relationships Among Criteria

It is often assumed that the various criteria of effectiveness of a classroom procedure will be closely related. The validity of this assumption is of consid-

TABLE 10
CORRELATIONS BETWEEN CRITERIA
($N = 31$)

Variables	r
Class Evaluation	
X Acceptance of Group Decisions	.43
X Democratic Gains	.40
X Achievement Gains	.01
Acceptance of Group Decisions	
X Achievement Gains	-.15
Class Evaluation X Democratic Gains	-.16
Class Evaluation X Achievement Gains	-.29

erable importance, both practically and experimentally. The status of this assumption in the present study is shown in the product-moment correlations of Table 10. These are based on the 31 subjects of the two democratic groups and arranged in order of size.

The significant correlations are between general evaluation of the course and acceptance of group decisions and between acceptance of group decisions and gain on the democratic attitude scale. Achievement gains are not positively related to any other criterion but may be negatively related to evaluation of the course and acceptance of group decisions. More detailed analyses agree with these correlation coefficients. We cannot assume that success on one criterion has more than a low relationship to success on any other.

Group Processes

The data presented thus far do not tell the whole story. The data on hand, including scores for social passivity and records of sociometric choices and class participation, were analyzed in several ways so as to disclose differences in motivation and perception of the classroom situation. One method of particular value was the comparison of extreme groups. The five students in each democratic class who made the highest evaluations of the class (as compared to their controls) were compared with the five

lowest in each class. The same comparisons of the ten highest with the ten lowest were made for acceptance of group decisions, gains in democratic attitude, and gains in achievement. The significant findings may be summarized:

1. Those students in both democratic classes who accepted the group decisions most willingly made significantly lower gains in academic achievement. Apparently they were group oriented while those who made high achievement gains were grade oriented.

2. Favorable evaluation of the democratic classes was associated with high sociometric status. Those who were most fully accepted by the group liked the class the best.

3. Those who were initially high in achievement made significantly greater gains in democratic attitude. A reason-

able explanation is that they were secure academically and thus could afford to try something new.

4. High achievement gains were associated with low initial democratic attitude, low sociometric status, low participation, and social passivity. The isolated individualist made the greatest academic improvement.

In general, the data suggest that the satisfactions derived from group work are different from the satisfactions derived from individual competition for grades in the typical class. Some students apparently preferred the traditional pattern and acted in the democratic class as they normally did in a lecture class. The individual grading system used in the democratic classes encouraged this approach.

IV. INTERPRETATION

The most interesting results of the experiment were, first, that the various criteria of effectiveness of the classroom procedures were not closely correlated and, second, that the two democratic classes carried out different classroom activities and yielded somewhat different sets of objective data. Table 11 sum-

marizes the evidence in a general way.

The results from the contrasting classes of the two experimenters, or the two experiments, agree in respect to the more intellectual criteria. In the course in general psychology, democratic procedures did as well as, or better than, lecture-discussion procedures in promoting academic achievement and curiosity.

But the democratic procedures were accepted more wholeheartedly in instructor A's classes, apparently because instructor B's students got involved in an unsatisfactory grading system. When the instructors run the classes, they can run them all the same, but when students run them, variations in procedure are to be expected. This dissatisfaction with the grading system in the B democratic class was generalized or displaced to the evaluation of other items

TABLE 11
SUMMARY OF EVIDENCE ON ALL HYPOTHESES

Hypothesis	Experiment		
	A	B	A & B
Class evaluation	++	-	+
Acceptance of decisions	++	-	+
Democratic attitude gains	+	-	-
Achievement gains	+	+	+
Psychological sensitivity	++	+	+

- ++ Significant difference in favor of democratic group.
- + Insignificant difference in favor of democratic group.
- Insignificant difference in favor of lecture group.

and the acceptance of other decisions. Nevertheless the democratic classes were on the whole somewhat more favorably received than the lecture classes.

An analysis of group processes in the classes of both instructors indicated a polarity of acceptance of the unfamiliar democratic procedures. Group-oriented students accepted group decisions and were accepted by their fellows. Other students did not get involved in group activities but retained their achievement orientation, probably because they entered the class with less respect for the democratic procedures. They were socially passive, did not participate in class discussion, and were not chosen by their classmates. It is probably this difference in the orientation that the students bring to the class, or develop in the first few days, that determines what they get out of it and this accounts for the lack of correlation between the group cri-

teria and the achievement criteria. Based on their analysis and interpretation of these results, the authors have formulated the following revised hypotheses to guide their future research:

The most effective class is one in which:

1. The content is organized to facilitate team activities.
2. Some group incentive is employed in the grading system. In other words, all students are given some reward based on the over-all achievements of their group or subgroup.
3. The instructor maintains a warm, objective relationship with students, and delegates considerable authority to them.

The effectiveness of such classes is most evident in creative and problem-solving activities and among students with initially favorable attitudes toward such procedures, who typically participate in their classes.

V. SUMMARY AND CONCLUSIONS

The purpose of the present study was to test the hypotheses that classes under democratic leadership are more effective than lecture classes in: (a) developing favorable evaluations of the class, (b) promoting acceptance of group decisions, (c) developing democratic attitudes toward group processes, and (d) improving ordinary academic achievement.

The subjects included a total of 62 students in four sections of general psychology. Two of the sections were under democratic leadership, and two were taught by the conventional lecture-discussion method. Each of the experimenters taught a democratic and a lecture class. All four sections were initially equated by matching subjects on the basis of scores on an achievement test and on a scale for the measurement of

democratic attitudes. These instruments were administered again at the end of the course along with student course evaluation and group decision evaluation scales. Decisions made by the democratic classes in regard to tests, grading, and class procedures were utilized by the instructors in the lecture classes.

Evaluations of the class and acceptance of group decisions were significantly more positive in one democratic class compared with its matched lecture group, than in the other. For the other democratic group, the results were negative, but not significantly so. The difference in the results for the two democratic groups appeared to be due primarily to the fact that the negative group became preoccupied and dissatisfied with the grading system which they

themselves had set up. Individually, those students who were selected sociometrically as informal leaders were most favorable toward the democratic class. This sociometric selection was significantly related to the extent of overt participation in the class.

Democratic attitudes did not change significantly in any of the classes and there were no significant differences between any groups. Democratic attitudes were measured by a scale developed for this project, having a split-half reliability of .85. Those individuals making the greatest gains on this scale were significantly higher in initial achievement. The data suggest that democratic attitudes became more homogeneous in the experimental or democratic group than in the lecture group.

Both democratic groups made greater achievement gains than their matched lecture groups, but the differences were not statistically significant. For the combined groups the reasoning subtest showed a higher superiority in favor of the democratic groups than any of the other subtests. The individuals making the greatest gains in total achievement were less democratic in their attitudes,

more passive socially, lower in participation, and less often chosen sociometrically. The pattern of differences strongly suggests that the high achievers rejected the democratic process and focused upon the traditional classroom objective of making a good grade for themselves.

Both democratic groups did better in a test of "sensitivity to psychological problems," and the results were of borderline significance. This written test, adapted for the project, was evaluated by four independent judges who carried out a blind analysis.

Based on their interpretation of the results, the authors suggest as hypotheses to guide further research that the most effective class is one in which (a) the content is organized to facilitate team activities, (b) some group reward is employed in the grading system, and (c) the instructor maintains a warm, objective relationship with the students and delegates considerable authority to the class. The effectiveness of such classes will be most evident in creative and problem-solving activities, and among those students with initially favorable attitudes toward such procedures.

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